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(71)Applicant : CATALYSTS & CHEM IND CO LTD  
ASAHI GLASS CO LTD

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(72)Inventor : KOYANAGI TSUGUO  
KOMATSU MICHIO  
HIRAI TOSHIHARU  
ABE KEISUKE  
SANADA YASUHIRO

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(54) COATING LIQUID FOR FORMING TRANSPARENT CONDUCTIVE FILM, SUBSTRATE WITH TRANSPARENT CONDUCTIVE FILM AND DISPLAY DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a transparent conductive film having surface resistance in a specific range and excellent in electromagnetic shielding effect, ultraviolet ray resistance and chemical resistance by containing ruthenium compound conductive fine grains containing ruthenium, boron and/or phosphorus in a coating liquid.

SOLUTION: Ruthenium compound conductive fine grains preferably contain ruthenium, boron and/or phosphorus as monomolecular grains, and the average grain size is set to the range of 1-200 nm, desirably 2-70 nm. The ruthenium in the ruthenium compound conductive fine grains is a ruthenium metal, and a ruthenium oxide and/or a ruthenium hydroxide is contained. The ruthenium compound contains one or more kinds of metals selected from a group of Au, Ag, Pt, Pd, Rh, Cu, Co, Sn, In and Ta and/or oxides of metals, thereby a substrate with a transparent conductive film having the surface resistance of 102-104  $\Omega$ /(square) is obtained.

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